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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,708	11/29/2001	Ivan Melnyk		2588

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EXAMINER

NGUYEN, CHANH DUY

ART UNIT	PAPER NUMBER
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2675

4

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,708

Applicant(s)

MELNYK, IVAN

Examiner

Chanh Nguyen

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The new specification and claims filed on January 05, 2004 have not been entered because a substitute specification filed under 37 CFR 1.125(a) must only contain subject matter from the original specification and any previously entered amendment under 37 CFR 1.121. If the substitute specification contains additional subject matter not of record, the substitute specification must be filed under 37 CFR 1.125(b) and (c) and must be accompanied by :1) a statement that the substitute specification contains no new matter; and 2) a mark-up copy showing the amendment to be made via the substitute specification relative to the specification at the time the substitute specification is filed.

Furthermore, amendments to a claim must be made by rewriting such claim with all changes (e.g, additions, deletions, modifications) included. The rewriting of a claim (with the same number) will be construed as directing the cancellation of the previous version of that claim. A claim may also be canceled by an instruction (i) A rewritten or newly added claim must be in clean form, that is, without markings to indicate the changes that have been made. A parenthetical expression should follow the claim number indicating the status of the claim as amended or newly added (e.g., "amended" , "twice amended, " or "new ").(ii) If a claim is amended by rewriting such claim with the same number, the amendment must be accompanied by another version of the rewritten claim, on one or more pages separate from the amendment, marked up to show all the changes relative to the previous version of that claim. A parenthetical

Art Unit: 2675

expression should follow the claim number indicating the status of the claim, e.g., "amended," "twice amended," etc. The parenthetical expression "amended," "twice amended," etc. should be the same for both the clean version of the claim under paragraph (c)(1)(i) of this section and the marked up version under this paragraph. The changes may be shown by brackets (for deleted matter) or underlining (for added matter), or by any equivalent marking system. A marked up version does not have to be supplied for an added claim or a canceled claim as it is sufficient to state that a particular claim has been added, or canceled.(2) A claim canceled by amendment (deleted in its entirety) may be reinstated only by a subsequent amendment presenting the claim as a new claim with a new claim number.

Specification

2. The application papers are objected to because they are not a permanent copy as required by 37 CFR 1.52(a)(1)(iv). Reference is made to the page numbers of the entire of specification (i.e. pencil marks from pages 1-18).

Applicant is required either (1) to submit permanent copies of the identified parts or (2) to order a photocopy of the above identified parts to be made by the Patent and Trademark Office at applicant's expense for incorporation in the file. See MPEP § 608.01.

3. All the references cited on page 1 of the specification should be cited on the IDS (Information Disclosure Statement) rather than a table format disclosed in the

Art Unit: 2675

specification. The box or table format as formed on page 1 is difficult for scanning to printer tape. It prefers to the text format and briefly explaining each of the references if applicant would like they are printed in the specification.

4. All the references cited on page 1 of the specification should be provided so that they can be considered.

Claim Objections

5. Claims 1-20 are objected to because of the following informalities: Although applicant claims 1-20 meet the requirement of 112/2nd, i.e. the metes and bounds are determinable, the claim format could be improved. Examples are the use of dot (·) and dash line (-) to the claims should be deleted so as to simplify the claim format. It is in the best interest of the patent community that applicant, in his/her normal review and/or rewriting claims, to take consideration these editorial situations and make changes as necessary.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2675

7. Claims 1-2, 5-9, 13 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (Figures 1A and 1B) in view of Narodny (U.S. Patent No. 3,886,544) and further in view of Smeets (U.S. Patent No. 6,157,371).

As to claim 1, Applicant's admitted prior art discloses a response device compatible with a magnetic resonance imaging (MRI) apparatus and similar medical techniques associated with strong magnetic environments including a keypad (10) connected with a fiber optic cable (15) to an electronic unit that includes photo electric means for illuminating optical fibers in the fiber optic cable, photodetecting means for detecting the light coming from the keypad (10) through the optic cable (15), and a signal processing means for processing signals from the photodetecting means and communication with external devices (see page 3, lines 1-11 and page 7, lines 1-13 of the specification). Applicant's admitted prior art teaches fiber optic push button switches (12, 14) that are located in the keypad (10) to be pressed by a patient who is undergoing a response test (see Figure 1A).

Prior art does not detail the fiber optic switch including, base, actuator, a spring, shutter. Narodny teaches the fiber optic switch including a base (35), and an actuator (41, 47) that can move in the base (35) while being pushed at the depressing end, a spring (44) that keeps the actuator in a fixed position in the base when the actuator is not depressed, an illuminating fiber (48) that provides light to a shutter (42) that is attached to another end of the actuator (41). The reflector (42) can block the light coming from the fiber (48) in the same way as the shutter of the disclosed device. This reads on broad claimed language. Narodny teaches a receiving fiber (49) that is

Art Unit: 2675

located in the base coaxially with the illuminating fibers (48) providing a gap for sliding the shutter in it when the shutter moves in the base. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used the structure of fiber optic switch as taught by Narodny to the fiber optic switch of prior art so as to possess extremely high conductivity with low loss (see column 3, lines 1-5 of Narodny).

Both prior art and Narodny show a plurality switches positioned on top of the keypad housing, but do not teach a plurality switches also positioned on the left and right sides of the keypad housing. Smeets teaches the keyboard having a plurality of switches located on the front, left and right sides of the keyboard housing (see figures 4A-4C). Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used three sides key switches of the keyboard housing to keypad housing of prior art as modified by Narodny so that the keyboard takes about of the space that would be necessary in a standard format (see column 2, lines 60-67 of Smeets).

As to claim 2, Narodny clearly teaches a base (35), and an actuator (41, 47) that can move in the base (35) while being pushed at the depressing end, a spring (44) that keeps the actuator in a fixed position in the base when the actuator is not depressed and optical fiber (48-49) that provides light to a reflective surface (42) at another end of the actuator and collects light that is reflected from the reflective surface (42).

Art Unit: 2675

As to claim 5, the arrangement of push button switches (32) of Narodny is known as QWERTY keyboard which is ergonomic as broad claimed language. Even Smeets' s keyboard is ergonomic (natural feel); see column 2,lines 49-51.

As to claim 6, Smeets teaches different keypads located on different surfaces of the housing. It is clear that a user can use his/her right hand for keypad at a right surface of the keyboard housing and his/her left hand for keypad at a left surface of the keyboard housing.

As to claim 7, the claimed "fiber optic push button switches are located on the box in positions that are equidistant from a central openings on a front side of said box" is broad enough to read on the keys (32) of Narodny which are equidistant from a central openings on a front side of the housing.

As to claim 8, Smeets clearly teaches a square arrangement of the button switches as recited in the claim (see figure 4).

As to claim 9, the claimed "circular arrangement" reads on the keypads disposed on a ball shape as taught by Smeets in Figure 3. The ball shape of Smeets is clearly circular shape.

As to claim 13, it would have been obvious that the key pad of prior art connected to interface circuit or Y box so that it can process the information inputted from a user. The claimed Y box is so broad that it could read on the housing 30 as taught by Narodny.

As to claims 16-19, the claimed "electronic unit", "light source", "microcontroller" recited in claims 16-17 are taught by prior art (see page 7, lines 1-11 of the specification and page 2, lines 10-19).

As to claim 20, prior art clearly teaches non-ferrous material (see page 7, lines 1-3 of the specification).

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over prior art (Figures 1A and 1B) in view of Narodny and Smeets as applied to claim 1 above, and further in view of Garcia, Jr et al (U.S. Patent No. 5,034,602).

As to claim 3, note the discussion of prior art, Narodny and Smeets above, prior art, Narodny and Smeets teach claimed limitation recited in claim 3 with exception of detailing a snapping means. For example, Narodny teaches a key travel is 0.125 inch. This reads on claimed limitation "depressing end of said actuator is facing out from an external surface of the box at a distance from 2 to 20mm". Garcia teaches a base (15) of the push button switch having a snapping means (plunger 7 and alignment member 9) on its top surface and an internal surface (17) of the box having a snapping means (guide 13) that mates with the snapping means (13) of the base (17). Garcia clearly teaches depressing end of the actuator (11) which can slide in an opening where it is inserted (see figure 1). Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used the snapping means as taught by Garcia to the fiber optic push button switch of prior art as modified by Narodny and Smeets so that the switch can be secured to the keyboard housing.

Art Unit: 2675

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over prior art (Figures 1A and 1B) in view of Narodny and Smeets as applied to claim 1 above, and further in view of Shipman (U.S. Patent No. 6,467,924).

As to claim 4, note the discussion of prior art, Narodny and Smeets above, prior art, Narodny and Smeets teach claimed limitation recited in claim 3 with exception of detailing a snapping means. For example, Narodny teaches a key travel is 0.125 inch. This reads on claimed limitation "depressing end of said actuator is facing out from an external surface of the box at a distance from 2 to 20mm". Shipman teaches a base (19) of the push button switch having a snapping means (20) on its bottom surface and an internal surface of the box having a snapping means (39, 41) that mates with the snapping means (20) of the base (19). Shipman clearly teaches depressing end of the actuator (11) which can slide in an opening where it is inserted (see figure 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used the snapping means as taught by Shipman to the fiber optic push button switch of prior art as modified by Narodny and Smeets so that the switch can be secured to the keyboard housing.

10. Claims 10 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over prior art (Figures 1A and 1B) in view of Narodny and Smeets as applied to claims 1 and 7 above, and further in view of Martovitz (U.S. Patent No. 5,304,574).

As to claim 10, note the discussion of prior art, Narodny and Smeets above, prior art, Narodny and Smeets does not teach a feature of knob. Martovitz teaches a knob (12) that is inserted into the control opening (16'), the knob (12) has a flange (14) that can touch all the depressing ends of push button switches (11), and the knob can be tilted and rotated inside the central opening (16') and the flange (14) can press the depressing end of the push button (11); see Figures 4-5. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used the knob as taught by Martovitz to the keypad of prior art as modified by Narodny and Smeets so that a user can use an inexpensive joystick to control button switches simultaneously (see column 1, lines 43-56).

As to claim 14, Martovitz teaches the knob (12) located on the keypad or keyboard. The keyboard of Martovitz reads on a third keypad as broad claimed language.

As to claim 15, it would have been obvious that the fiber optic cables of the prior art and Narodny can have different lengths which depends upon the distance from the keypad to the interface circuit. Even the prior art teaches that the typical length of the optical cable exceeds 10m in order to keep electronic outside the MRI scanner room (see page 7, lines 7-8 of the specification).

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over over prior art in view of Narodny, Smeets and Martovitz as applied to claims 1, 7 and 10 above, and further in view of Thomas (U.S. Patent No. 4,604,502).

Art Unit: 2675

As to claim 11, note the discussion of prior art, Narodny, Smeets and Martovitz, note of them mentions about start button. Thomas teaches a fire button or start button (21) provided on the handle (17). Since the prior art and Narodny teach fiber optic switch as modified by the joystick of Martovitz, the combination fiber optic switches of the prior art and both joysticks of Martovitz and Thomas would arrive the claimed "said start button is connected to a movable fiber optic switch that is inside of the box and is attached to the end of the handle that is inserted into the central opening". Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used a start button of Martovitz to the keypad of the prior art as modified by Narodny, Smeets and Martovitz so as to eliminate the necessity of a cumbersome housing into a which a control rod extends (see column 2, lines 15-21 of Thomas).

12. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over over prior art in view of Narodny, Smeets and Martovitz as applied to claims 1, 7 and 10 above, and further in view of Langewis et al (U.S. Patent No. 4,786,768).

As to claim 12, note the discussion of prior art, Narodny, Smeets and Martovitz, note of them mentions about an elastic ring. Langewis teaches an elastic ring (32) that is located under the flange (29), the ring holding the knob (23) perpendicular to front side of the box if the knob (23) is not tilted. Langewis teaches an insertion part having a fixing means (28, 33) that prevents the knob from being removed from the housing (see column 3, line 66 through column 4, line 3). Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used the elastic ring

and the insertion part of the knob of Langewis to the keypad of the prior art as modified by Narodny, Smeets and Martovitz so the knob can be secured on to the front surface of keyboard housing.

Response to Arguments

13. Applicant's arguments filed January 5, 2004 have been fully considered but they are not persuasive.

14. As to paragraph "#1", applicant states that the specification was retype. However, there are no a statement that a) the substitute specification contains no new matter; and b) a mark-up copy showing the amendment to be made via the substitute specification relative to the specification at the time the substitute specification is filed as required by 37 CFR 1.125(b) and (c). Example are deleting all the information cited in page 1 of the specification, correcting the information "Lightwave Medical Industries Ltd" to Photon Control Inc., on page 2 of the specification and correcting all page numbers in the specification.

As to paragraph "#2", applicant states that "all the references on page 1 were cited for convenience only. They can be omitted upon Examiner consideration". However, since the all the references are not provided and IDS is not submitted. All the references are not considered by examiner.

As to paragraphs "#3" and "#5", the changing the name of "Lightwave Medical Industries Ltd" in the specification and retyped claims are refused to entered because the amended claims have no insertion or deletion indicated for the information to be

added or deleted as well as the substitute specification is not met requirement by 37 CFR 1.125(b) and (c).

As to paragraph "#7, page 4", applicant argues that "none of optical switches in the reference of U.S. Patent No. 3,886,544 are based on coaxial arrangement. However, the claims do not recite the limitation "coaxial switches". The claim only recited "fiber optic push button". This limitation is broad enough to read on optical switches of Nardony using fiber optics. The only claimed "coaxial" recited in the claim is the limitation "a receiving fiber that is located in said base coaxially with said illuminating fiber". However, Narodny teaches a receiving fiber (49) that is located in the base coaxially with the illuminating fibers (48) as broad claimed language.

As to paragraph "#7, page 5", applicant argues that the main idea of this claim is to have a possibility for changing the position optic switches in different locations on the keypad". However, claims do not recited the limitation "changing the position optic switches in different locations on the keypad" as applicant's argument..

As to claim 7, applicant argues that "Narodny does not teach equidistant arrangement of the switches. Examiner disagrees with applicant this point of view. For example, the keys Q, W, A, S are arranged equally distant.

As to claim 9, applicant argues that Smeets describes the keyboard as image on the screen, but not circular arrangement of the switches. However, it would have been obvious that the circular keyboard on screen of Smeets would be a simulate for a physical circular keyboard.

As to claim 13, applicant argues that Nardony does teach two separate key pads, one for left and one for right. For this reason, there is no need for a Y box in Nardony. However, the claim does not recite a Y box for using two separate keypads. The claimed Y box is so broad that it even can read on the housing 30 of Nardony.

As to claim 3, applicant argues that Garcia teaches using snapping means for illumination of the switch, but not for repositioning of the switches along the keypad. However, the claimed "repositioning of the switches along the keypad" is not recited in the claims.

As to paragraph "#10, page 8,9", applicant argues that the present invention teaches the joystick arrangement for various location of the switches on keypad including circular one, which is shown in Fig.8. Again, the limitation "the joystick arrangement for various location of the switches on keypad including circular one" is not recited in the claim. Similar to the argument, "the present invention teaches through-hole arrangement of the joint (Fig.12) which prevents the knob from slipping along the keypad and allows uniform circular depressing of the keys. The hole for installation of the knob is the same where fiber optic switch can be installed" presented by applicant is not persuasive since it does not recite in the claim.

As to paragraph "#11, page 9", applicant argues that "the present invention teaches joystick which is operated by one hand, the fire-button is associated with the knob, but not with the body of the joystick as is described by Thomas". However, the claim does not recite joystick which is operated by only one hand as applicant's argument.

As to paragraph "#12, page 9", applicant argues that the design of Langewis is not relevant to the present invention". However, the design of Langewis may not be relevant to the present invention, but it is relevant to the claimed invention.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chanh Nguyen whose telephone number is (703) 308-6603.

If attempts to reach the examiner by telephone are unsuccessful, the examiner supervisor, Steven Saras can be reached at 305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121
Crystal Drive, Arlington, VA, Sixth Floor (Receptionist)

Any inquiry of a general nature or relating to the status of this application or
proceeding should be directed to the Technology Center 2600 Customer Service Office
whose telephone number is (703) 306-0377.


C. Nguyen
April 12, 2004


CHANH NGUYEN
PRIMARY EXAMINER